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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/537,448	06/02/2005	Rob A. Beuker	NL02 1323 US	2666

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EXAMINER	
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ART UNIT	PAPER NUMBER
2629	

NOTIFICATION DATE	DELIVERY MODE
09/05/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/537,448	BEUKER ET AL.	
	Examiner	Art Unit	
	CALVIN C. MA	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Pollard et al. (US Patent: 7,082,218).

As to claim 1, Pollard discloses a method for improving the perceived resolution of a color matrix display (90) with at least one pixel (i.e. the display device 90 is able to display a full color JPEG display therefore, it must have at least one pixel) (see Fig. 11, Col. 13, Lines 18-60), comprising the steps of subdividing an incident color channel signal (R) (i.e. the color channel of the original image that is taken by the camera and then displayed on the screen 90) (see Fig. 6, 11, Col. 11, Lines 5-40) to said pixel into a first and second signal component (i.e. the high and low frequency component),

applying a gain factor (i.e. the gain factor is the color correction factors G that is applied to the components) to one of said signal components, and subsequently recombining said first and second signal components into an exiting, modified color channel signal (i.e. the high and low frequency components are separately treated and then recombined into a final image which is then displayed on the display 90) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15).

As to claim 7, Pollard teaches a color matrix display device (i.e. the camera device having a image display 90) having at least one pixel, said pixel being arranged to be controlled by means of an applied color channel signal (i.e. the color image signal from the long term memory for presently captured by the image processor), the display device having a control unit comprising: a subdivision unit, for subdividing an incident color signal into a first and second signal component (i.e. the function block that separate the high 103 and low 102 components of the image data), an gain factor application unit (the functional block responsible for color correction), for applying a gain factor to one of said components, and a recombination unit (the function block that recombines the two components to form final image 105), for subsequently recombining said first and second signal components into an exiting, modified color channel signal, being used to control said pixel (i.e. the high and low frequency components are separately treated and then recombined into a final image which is then displayed on the display 90) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15).

As to claim 12, Pollard teaches a color matrix display device (i.e. the camera device having a image display 90) for displaying images, the device comprising:

a plurality of pixels controlled by applied color channel signals (i.e. the matrix display system 90); and

a controller (72) including

a subdivision unit to subdivide, for separated color channel signals, each color channel signal into a first and second signal component (i.e. the function block that separate the high 103 and low 102 components of the image data),

a gain factor application (i.e. the quality gain factor application DSP process) to apply, for each color channel signal (i.e. both high and low band color signal), a gain factor to one of said components, the gain factor having a value that is inversely proportional to the contribution of the color channel signal to the total luminance of the color matrix display device (i.e. since the image is adjusted differently for both the low and high band they have different gain factors), and

a recombination unit to recombine, for each color channel signal, said first and second signal component into a modified color channel signal that is used to control said plurality of pixels (i.e. the high and low frequency components are separately treated and then recombined into a final image which is then displayed on the display 90) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15).

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As to claim 2, Pollard teaches a method according to claim 1, wherein said first and second signal components are a low-pass component and a high-pass component, respectively (i.e. the high and low frequency components are separately treated and then recombined into a final image which is then displayed on the display 90) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15).

As to claim 3, Pollard teaches a method according to claim 2, wherein said gain factor is applied to said high-pass component (i.e. the gain factor is applied to the high components in the form of the color correction matrix during color correct phase) (see Fig. 4, Col. 8, Lines 5-25).

As to claim 4, Pollard teaches a method according to claim 2, wherein said low-pass component is realized by means of a low-pass filter (i.e. low-pass filter) (see Col. 4, Lines 30-50), and said high-pass component is realized by means of a high-pass filter (i.e. the process of subtracting the result of the low-pass filter result from the raw pixel data is equivalent to high-pass filtering as the low-pass filter is in fact reverse to arrived at high frequency components), said low-pass and high-pass filters being complementary (i.e. since the to operation obtain the high and low frequency components for the same pixel data they are complementary in nature with one helping to derive the other) (see Fig. 1, Col. 4, Lines 1-60).

As to claim 5, Pollard teaches a method according to claim 1, further comprising the step of: providing the gain factor, so that the gain factor is inversely proportional to the contribution of the color channel to the total luminance of the color matrix display (i.e. since the color correction gain is design to minimize the presence of noise in the inputting color image to the display 90 it is inversely proportional to the original raw image that is supposed to be displayed on the display screen which affects the luminance level, therefore the noise cancellation correction has gain factor that is inversely relationship to the luminance of the color display 90) (see Col. 4, Lines 9-26).

As to claim 6, Pollard teaches a method according to claim 1, further comprising the step of: transmitting said exiting, modified color channel signal to a delay (i.e. the image is placed into long term memory 88 from the microprocessor/DSP 72) (see Fig. 11) and up- or downsampling block in order to provide the modified color channel signal with a suitable delay and scaling (i.e. the image is retrieved from the Long term memory 88 back into the microprocessor/DSP 72 and than display on the display 90, in this process the color image must be up or down sample to be properly fitted onto the display regardless of the image size on memory) (see Fig. 11, Col.13, Lines 26-55).

As to claim 8, Pollard teaches color matrix display device as in claim 7, being arranged to perform the method according to claim 1 (i.e. since the same digital camera

system satisfy the limitation of both claim 1 and 7 it also satisfy the combination of the two) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15).

As to claim 9, Pollard teaches a method according to claim 1, wherein the step of subdividing each of separate color channel signals for an image into a first and second signal component (i.e. the high and low frequency components are separately treated and then recombined into a final image which is then displayed on the display 90) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15).

As to claim 10, Pollard teaches a method according to claim 1, wherein the step of subdividing each of separate color channel signals for an image into a first and second signal component (i.e. the high and low frequency color signal components are separately treated) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15).

, and

wherein applying a gain factor includes applying a gain factor to each separate color channel signal that is inversely proportional to the contribution of said separate color channel signal to the total luminance of the color matrix display (i.e. since the image is adjusted differently for both the low and high band they have different gain factors and due to the adjustment of overall image quality of the system the low band frequency is adjusted for color correction by the gain factor which is inversely

proportional to the contribution in frequency and therefore luminance) (see Fig. 1, 11, Col. 3, Line 40 - Col. 4, Line 15) .

As to claim 11, Pollard teaches a method according to claim 1, wherein the step of subdividing includes subdividing a number N (i.e. N=2) of different color channel signals, and

the step of applying a gain factor includes applying a gain factor, for each color channel signal, that is about equal to the value of 1/2 multiplied by the reciprocal contribution of the channel signal to the total luminance of the color matrix display (i.e. since the total picture color correction is equal to the summation of both the high and low band color signal the application of gain factor is the total contribution of the both parts of the signal) (see Fig. 1, 11, Col. 3, Line 40-Col. 4, Line 15).

Response to Arguments

3. Applicant's arguments filed 05/07/2008 have been fully considered but they are not persuasive.

The applicant, in the third paragraph of page 5 of the response, argues regarding claims 1 and 7 that the prior art Pollard does not disclose "separating individual color signal channels ... and recombining the separated components", the examiner disagrees on this point. The phrase "color channel signal" used in claims 1 and 7 are analyzed by the examiner to have a broad enough scope to read on the RGB signal that is processes into separated components in Pollard. Since by definition the RGB signal are three color signal it is a form of color channel signal, and the said claims does not

enumerate that the color channel are separated. Therefore, Pollard teaches correcting the color signal channels of the image by separating the signal it meets the said limitation of claims 1 and 7.

The applicant, in the fifth paragraph of page 5 of the response, argues regarding to claim 5, that the Pollard reference does not disclose "applying a gain factor that is inversely ... to the total luminescence of a color matrix display". The examiner disagree since the phrase "an incident color channel signal" can be interpreted as the RGB signals and that the gain factor is the correction factor that matches the specific display that is image is to be displayed on. As the noise of the color channel is to be removed, the end result in the gain of quality of image is derived from the elimination of the noise which is magnified due to the luminance magnitude of the color matrix display. Therefore, the gain in quality of image is the gain factor which is inversely related to the image noise that is magnified by the luminance of the display.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Calvin Ma whose telephone number is (571)270-1713. The examiner can normally be reached on Monday - Friday 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh Nguyen can be reached on (571)272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Calvin Ma
August 31, 2008

/Chanh Nguyen/
Supervisory Patent Examiner, Art Unit 2629